



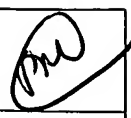
# UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,409	02/27/2004	Woong-Kwon Kim	053785-5172	4533
30827	7590	10/12/2005	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP			CHIEN, LUCY P	
1900 K STREET, NW			ART UNIT	
WASHINGTON, DC 20006			PAPER NUMBER	
			2871	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/787,409	Applicant(s) KIM ET AL. 	
	Examiner Lucy P. Chien	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### **Comment**

Examiner is replacing the previous restriction sent out on June 6, 2005 with this restriction.

Applicants election with traverse of Group I, Species Group I, Species II (Claims 1 and 5) readable thereon in the reply filed on August 1, 2005 is acknowledged. Examiner is withdrawing previous restriction and replacing it with this restriction because examiner finds that previous restriction was not proper.

After further consideration it is apparent to the examiner that Claims 1, 22, and 29 are not generic for the following reasons:

Claim 1 recites a black matrix over the thin film transistor along color filter borders of adjacent pixel regions. This is not shown in Figure 10A, 10C. Therefore this claim cannot be generic.

Claim 22 recites a first buffer pattern, which is not shown in Figure 6.

Claim 29 recites second buffer, which is not shown in Figure 3.

The inventions are distinct, each from the other because of the following reasons:

### **Election/Restriction**

**Group I. Claims 1-33**, drawn to a transfective liquid crystal display device, classified in class 340, subclass 114.

**Group II. Claims 34-40**, drawn to a method of fabricating a transfective liquid crystal display device, classified in class 349, subclass 187.

Group II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In this case, the device can be made without the method of forming a buffer layer recited in group II, and without simultaneously using mask processes as recited in group II.

***Election/Restrictions***

If Group I is elected, the claims contain the following patentably distinct species.

**Group of Species A**

**Species A1:** Specifics being a transfective liquid crystal display having a color filter-on-thin film transistor structure where the reflector is formed of the same material as the gate electrode shown in Figure 3,4,8-10D.

**Species A2:** Specifics being a transfective liquid crystal display having a color filter-on-thin film transistor structure where the reflector is formed of the same material as the source and drain electrode shown in Figure 5,6.

**Group of Species B:**

**Pick one of:**

**BI:** A reflective and transmissive portion within a pixel region of a transfective liquid crystal display device where the reflective portion 512 has a rectangular shape

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where the diagonal lines of transmissive portion 510 exactly correspond to the diagonal lines of reflective portion 512. Also, the reflective portion is centered in the transmissive portion. *Shown in Figure 7A.*

**B2:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion 522 has a rhombic and diamond shape and the diagonal line of the transmissive portion 520 is perpendicular to diagonal lines of the reflective portion 522. *Shown in Figure 7B.*

**B3:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion 532 has a hexagonal shape. *Figure 7C.*

**B4:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion 542 has an octagonal shape. *Figure 7D.*

**B5:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion is disposed at one corner of the transmissive portion so that two sides of the reflective portion contacts two sides of the transmissive portion. *Figure 7E.*

**B6:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion is disposed at one side of the transmissive portion so that one side of the reflective portion contacts one side of the transmissive portion. *Figure 7F.*

**B7:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion has a right-angled triangular shape. Two sides of the reflective portion correspond to two sides of the rectangular transmissive portion but do not contact them. *Figure 7G.*

**B8:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion has a right-angled triangular shape. The hypotenuse right-angled triangular reflective portion is surrounded by a border on the transmissive portion. *Figure 7H.*

**B9:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the 2 right-angled triangular reflective portion side is at one corner of the rectangular transmissive portion where the hypotenuse of the reflective portion borders the transmissive portion. *Figure 7I.*

**B10:** A reflective and transmissive portion within a pixel region of a transflective liquid crystal display device where the reflective portion is an isosceles triangle bottom

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side contacts the bottom side of the transmissive portion and the other sides of the reflective portion have equal sides. *Figure 7J.*

**B11:** A reflective and transmissive portion within a pixel region of a transfective liquid crystal display device where the isosceles triangle reflective portion contacts the top side of the transmissive portion. *Figure 7K.*

**Group of Species C:**

*Pick one of:*

**C1:** Specifics being that there are two pixel electrodes. A first transparent pixel electrode and a second transparent pixel electrode, the first transparent electrode is between the black matrix and the color filter and contacts the drain electrode and the second transparent pixel electrode is on the pixel electrode to contact the first transparent pixel electrode shown in Figures 3-6,8,9.

**C2:** Specifics being one pixel electrode shown in Figure 10A-10D.

**Group of Species D:**

*Pick one of:*

**D1:** Specifics being the two buffer layers in the pixel region and the pixel electrode touching the drain electrode, the substrate, and the thin film transistor, including another pixel electrode above the color filter. Also, the passivation layer is on

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top of the black matrix between the color filter and black matrix and also on top of the TFT as shown in Figure 8,9.

**D2:** Specifics being the color filter having a drain contact hole exposing the edge portion of the drain electrode and one passivation layer on top of the TFT and reflector exposing an edge portion of the drain electrode including one pixel electrode that covers the color filter and contacting the edge of the drain electrode shown in Figures 10A-10D.

*If D2 is elected please elect one of the sub-species.*

**Sub-Species D2(I):** Specifics being the black matrix on top of the pixel electrode shown in Figure 10A.

**Sub-Species D2(II):** Specifics being the black matrix above the thin film transistor filter between the color filters of neighboring pixel regions shown in Figure 10B.

**Sub-Species D2(III):** Specifics being a planarization layer between the color filter, the pixel electrode, and the black matrix on the planarization layer shown in Figure 10C.

**Sub-Species D2(IV):** Specifics being the black matrix above the thin film transistor filter between the adjacent color filters and the planarization layer covering both the black matrix and the color filter shown in Figure 10D.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, **none** are generic.



Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

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remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucy Chien  
Examiner  
Art Unit 2871  
LC



  
ANDREW SCHECHTER  
PRIMARY EXAMINER